

## Board Exam

by Arya Akhavan (July 2014)

Angles for R.I. = 1.540

231 + 10 girdles = 241 facets

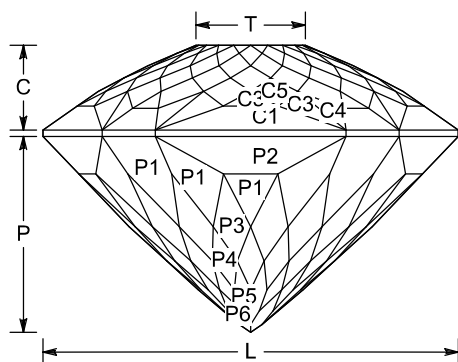
20-fold, mirror-image symmetry

120 index

L/W = 1.051 T/W = 0.277 U/W = 0.277

P/W = 0.495 C/W = 0.214

Vol./W<sup>3</sup> = 0.256



PAVILION			
P1	46.32°	120-006-012-018-024-030-036-042-048-054-060-066-072-078-084-090-096-102-108-114	Cut to centerpoint.
G1	90.00°	120-024-048-072-096	Set stone size.
G2	90.00°	012-036-060-084-108	Level girdle.
P2	67.53°	120-024-048-072-096	Level girdle.
P3	44.32°	003-009-015-021-027-033-039-045-051-057-063-069-075-081-087-093-099-105-111-117	Cut P3(003) to meet P1, P2.
P4	42.32°	120-006-012-018-024-030-036-042-048-054-060-066-072-078-084-090-096-102-108-114	Meet P1, P3
P5	40.83°	003-009-015-021-027-033-039-045-051-057-063-069-075-081-087-093-099-105-111-117	Meet P3, P4
P6	38.99°	012-036-060-084-108	Meet P4, P5 (leave frosted)

CROWN			
C1	60.10°	120-024-048-072-096	Set girdle width.
C2	37.39°	012-036-060-084-108	Level girdle.
C3	35.09°	120-006-018-024-030-042-048-054-066-072-078-090-096-102-114	Cut C1(006) to meet G1, G2, C1, C2
C4	34.30°	007-017-031-041-055-065-079-089-103-113	Meet G1, G2, C1, C2, C3
C5	30.52°	003-009-015-021-027-033-039-045-051-057-063-069-075-081-087-093-099-105-111-117	Meet C1, C3
C6	32.51°	012-036-060-084-108	Meet C2, C4, C5
C7	27.04°	120-006-012-018-024-030-036-042-048-054-060-066-072-078-084-090-096-102-108-114	Meet C3, C5, C3, C4, C5, C5, C6
C8	24.53°	003-009-015-021-027-033-039-045-051-057-063-069-075-081-087-093-099-105-111-117	Meet C5, C7
C9	22.89°	120-006-012-018-024-030-036-042-048-054-060-066-072-078-084-090-096-102-108-114	Meet C7, C8
C10	21.28°	003-009-015-021-027-033-039-045-051-057-063-069-075-081-087-093-099-105-111-117	Meet C8, C9
T	0.00°	Table	Meet C9, C10

To write this design, I took my score on the USMLE Step 1 and used that as the goal for number of facets. P6 should be frosted in RIs lower than 1.61, because it'll window otherwise. In higher RIs, the star in the bottom becomes "framed" by a ring of extra brightness and a backdrop of extinction, and that looks cool! Works in materials from quartz to CZ (RI = 1.54 - 2.16) with no changes, but it's intended for large blue topaz.  
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